7. ALTERNATIVE PLANS

The alternatives that are presented in the following paragraphs are those that remain as potential options for consideration in handling future maintenance dredging needs of the Upper Saginaw River navigation channel. The Upper Saginaw River management plan considers a full range of measures, which includes the development of new disposal sites, formulating a beach nourishment program, and beneficial use of the dredged material. A summary of alternative placement options for the annual maintenance-dredging program is displayed at the end of Section 8 in Table 3.

7.1 Alternative 1 - Develop the Zilwaukee Township Site, West of Saginaw River, into a Dredged Material Disposal Facility.

This alternative consists of constructing an upland dredged material disposal facility on a large parcel west of the Saginaw River (See figures 3 and 4), approximately 11 miles upstream of the mouth of Saginaw River, west of the city of Bay City, Michigan.

This parcel is approximately 281 acres in size of the 581-acre site. It is located west of Melbourne Road, bordering along Saginaw and Bay counties in Zilwaukee Township, Michigan. This proposed site is presently used as farmland. This site has existing earthen dikes constructed around its perimeter (built prior to 1965). Dredged material would be placed by hydraulic dredging method. There is a Michigan Department of Natural Resources (MDNR) game reserve (Crow Island Game area) located adjacent to the west and south side of the proposed site, and an abandon railroad track lies along its eastern perimeter.

7.2 Alternative 2 - Develop the Buena Vista Township Site, East of Saginaw River, into a Dredged Material Disposal Facility.

This alternative consists of constructing an upland dredged material placement site east of the Saginaw River (See figure 3), approximately 11 miles upstream of the mouth of Saginaw River, in the city of Bay City, Michigan.

This parcel is approximately 131 acres in size of a 274-acre site (see figure 6) and is located east of Bay City Road, southeast of the confluence of Cheboyganing Creek and Saginaw River. This site also lies on the border of Saginaw and Bay counties, but is in Buena Vista Township, Michigan. This proposed site is presently used as farmland. This site has existing earth dikes constructed around its perimeter, which were built prior to 1965. Dredged material would be placed by hydraulic dredging method. There is a Michigan Department of Natural Resources (MDNR) game reserve (Crow Island Game area) located southwest of the proposed site and an active railroad track lies along the western perimeter.

7.3 Alternative 3 – Place Dredged Material at the General Motors Powertrain (Saginaw) Metal Casting Operation Landfill.

This alternative consists of placing dredged material in an existing landfill.

The proposed site is located at Hack Road and Crow Island Road (near M-13), within a ½ mile of Saginaw River, Buena Vista Township, Michigan (See figure 3). This type III landfill was constructed (and has been continuously owned) by the General Motors Corporation, and has been used for placement of foundry lagoon sludge from nearby operations. The landfill is constructed with a clay liner and is outfitted with monitoring wells. Known heavy metals present in the landfill include Zinc, Chrome, Lead and Magnesium. This proposed site has a remaining capacity of approximately 5,000,000 cubic yards.

The shoal material would be mechanically dredged, then transferred to an offloading facility and decanted (dewatered without disturbing the sediments), then transferred by truck to the landfill for a fee. Type III landfills require that any material placed in it must be relatively dry, therefore, the dredged material would need to be decanted at the offloading facility prior to transfer. In 2003, General Motors requested indemnification (through the DEQ) for placement of any dredged material, along with their sand casting material, in the landfill.

7.4 Alternative 4 - Beach Nourishment

Alternative 4 considers the placement of the dredged material on the beaches within Saginaw Bay area shoreline, which would serve a beneficial use.

Beach nourishment is becoming a more utilized option where local conditions warrant. Beach nourishment is ideal in shoreline areas that are classified as “erosional”, where more material is lost through natural erosion than is deposited via littoral drift. Also, beach nourishment helps to expand recreational beaches at local or state parks, if near by. Lastly, sandy material can be placed on shorelines in preserve areas to enhance shoreline habitat.

7.5 Alternative 5 - Recycle Dredged Material

Alternative 5 considers the hydrocyclone processing of the dredged material, previously placed in an upland DMDF, to provide additional space for future dredged material.

The processed material, which is separated by grain size of gravel, sand and silt, can provide material suitable for beneficial use for agricultural, construction, composting or landfill cover purposes. It would be the responsibility of the local project sponsor to market and sell/use the suitable material for beneficial purposes.

7.6 Alternative 6 - No Action

This alternative recommends that the Federal Government terminate any further participation in the development or construction of a DMDF.

Currently, there is no dredged material disposal facility (DMDF) available for the upper Saginaw River, and there is a dredging backlog of approximately 700,000 cubic yards. If no action is taken to address this problem, it is anticipated that the backlog of shoal material will continue to increase, suspension of maintenance dredging of the Federal navigation channels will persist, and vessels will continue to light load while risking grounding.